

Honeywell MeterSuite™ – DCS Integrated Flow Metering

Article

Introduction

Metering computer Systems, or MCS in short, go by many names in the Industry. Typically, these systems are supplied by Metering System Integrators that deliver metering skids as well. Some of these system integrators provide their own branded Metering Computer Systems while others outsource this part of the project to smaller subcontractor companies with as little as 10-15 employees. All Metering Computer systems are designed in the same way and consist of three primary components as outlined in figure 1 below.

First, there is the human machine interface also referred to as metering supervisory system. This is typically a stand-alone PC with a SCADA type of software running in a Windows environment

and performing tasks like valve control, proving operation, station totalization, and reporting functions. Then, there is a PLC that performs the control functions of field equipment installed on or around the metering skid. And third, there is the flow computers - these are embedded computer systems that perform flow computation functions according to international standards like AGA, ISO, API and OIML.

DCS Integrated Approach

The above mentioned solution is and will remain very well suitable in many cases. However, in locations where a Honeywell Distributed Control System is already available, or those locations with many metering points, there is a more intelligent approach. With Honeywell MeterSuite, the PLC functionality as well as the flow computer functionality are performed in the DCS system, to be more precise in the Experion C300 controllers. There is no separate HMI required as the DCS system itself is more than capable of performing the visualization, control, and reporting functions.

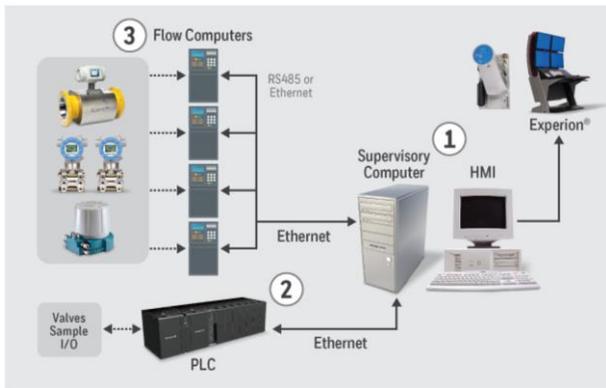


Figure 1: Traditional Metering System Architecture



Figure 2: DCS Integrated Approach

In some countries custody transfer regulations insist that flow computation is performed on dedicated flow computers. In this case, the Flow computers can be provided in a so called hybrid MeterSuite architecture.

The advantages of the MeterSuite approach are numerous:

- Seamless data integration with the plant wide Honeywell DCS system. No duplication of HMI displays in two different systems.
- All information is available at one place, eliminating complex redundant communication links between two different vendors.
- Traditional flow computers have a lifetime expectation which is far less than that of a DCS system. Replacement of flow computers after 10-15 years is no longer required.
- Totally scalable solution - adding additional metering points is as easy as adding a few IO's to the C300 Controller system, one C300 controller can accommodate as much as 30 metering points
- Honeywell Experion system comes with a world class service offering well known to the industry. Cyber security and reliable operation are guaranteed throughout the complete lifecycle of the system and it comes with guaranteed upgradability for 30+ years. No additional training required for operator personal to be able to operate the separate SCADA system that the traditional approach requires.

These and many other advantages result in significant savings in CAPEX and OPEX for your metering systems. Honeywell MeterSuite complies with all leading custody transfer standards and is certified under MID for both gas and liquids, OIML R117, and Directive 17.

Many well-known oil and gas companies and refineries have already discovered the benefit of DCS integrated metering solutions. MeterSuite is part of Honeywell Elster® Precision Solutions and is another example of how going beyond metering brings immense value to your oil and gas operations.

For More Information

To learn more about Honeywell's Elster Precision Solutions and MeterSuite, visit www.honeywellprocess.com or contact your Honeywell account manager, or authorized distributor.

Honeywell Process Solutions

1250 West Sam Houston Parkway South
Houston, TX 77042

Honeywell House, Skimped Hill Lane
Bracknell, Berkshire, England RG12 1EB UK

Building #1, 555 Huanke Road,
Zhangjiang Hi-Tech Industrial Park,
Pudong New Area, Shanghai 201203

AR-17-003-ENG
November 2017
© 2017 Honeywell International Inc.